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EXAMINER	
FAHNERT, MARISOL	

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2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/568,976	BIENAS ET AL.	
	Examiner	Art Unit	
	MARISOL FAHNERT	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 February 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. **Claims 19-36** are rejected under 35 USC 103(a) as been unpatentable over Moulsley (US 6,907,015) in view of Holtzman (US 2002/0021683).

Regarding Claim 19, Moulsley discloses a method for selecting a transmission channel for transmission and sending a message from a mobile terminal to a base station, comprising:

initially sending from the mobile terminal a send authorization request signal for a specific transmission channel to the base station (col. 3, lines 30-36, "*In this basic scheme the choice of preamble signature for encoding the access preamble 202 determines the physical channel requested by the MS 110, with each preamble signature corresponding to a limited number of uplink and downlink channels. If the BS 100 receives and decodes the preamble correctly it transmits a preamble acknowledgement (A) 206.*");

sending from the base station to the mobile terminal a response signal containing a first decision value, wherein a first set of signature character sequences is used for encoding the first decision value in the response signal (col. 1, lines 49-52, "*the secondary station having means for requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource*"), the first decision value indicating whether the mobile terminal is authorized to send a message on the specific transmission channel (col. 3, lines 46-50, "*As well as informing the MS 110 that its preamble 202 has been received, the acknowledgement 206 may be positive, to signal that the requested channels are free, or negative, to signal that they are in use and access is denied to the MS 110.*");

if the first decision value indicates the mobile terminal is refused authorization to use the specific transmission channel and the mobile terminal is authorized to send a message on another transmission channel the response signal includes a second decision value (col. 4, lines 40-46, "*In a system in accordance with the present invention, this problem is alleviated by enabling the BS 100 to signal allocation of a packet channel at the same time as it transmits an access acknowledgement 206 or a contention resolution acknowledgement 210. This signalling may form part of the acknowledgement 206, 210 or may be transmitted at the same time, preferably with the same channelisation code.*"),

wherein said second decision value in the response signal is encoded using at least one signature character sequence orthogonal to the first set of signature character sequences (col. 3, lines 11-15, "*A signature is a signal characterised by its scrambling*

code and channelisation code modulated by a specific bit sequence. A mutually orthogonal set of signatures can be obtained by defining a set of mutually orthogonal bit sequences for the modulation"; col. 5, lines 43-47, "*With a choice of 16 signatures and their inverses it is possible to acknowledge up to 16 different preamble signatures with one code word, and at the same time to send another code word indicating one of up to 16 different channelisation codes*"), and

analyzing by the mobile terminal the mobile terminal, upon detection that the first decision value in the response signal is negative, the response signal to determine whether the second decision value is included in the response signal, indicating authorization of the mobile terminal to send a message on another transmission channel (col. 2, lines 19-23, "*for receiving a further response from the primary station, and for determining which channel has been allocated from a channel allocation signal transmitted by the primary station at the same time as at least one of the responses.*"), and

sending the message by the mobile terminal to the base station on one of the transmission channels available (col. 5, lines 55-57, "*If a CA 210 was received the MS 110 is able to proceed to transmit, at step 520, its data packets 214 on the assigned channel, after which the method ends at step 522.*").

Moulsley does not explicitly disclose at least one signature character sequence used for encoding the second decision value created by multiplying only each second character of a signature character sequence of the first set of signature character sequences by -1.

Holtzman discloses at least one signature character sequence used for encoding the second decision value created by multiplying only each second character of a signature character sequence of the first set of signature character sequences by -1 ([0076], lines 2-5, "*the phase rotator 206 generates an ordered sequence of alternating plus and minus one values (i.e., 1, -1, 1, -1, 1, . . .) which are applied to the new users.*").

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to modify the invention of Moulsley adding the limitations as explixitly described by Holtzman in order to encode the second decision value with a signature character sequence orthogonal to the first set of signature character sequences.

Regarding Claim 20, the combination of Moulsley and Holtzman discloses all the limitations of Claim 19.

Moulsley further discloses the transmission channel to be selected being one of a number of logical channels implemented by using different channelization codes on a physical transmission channel used jointly by a number of terminals for transfer of messages to the base station (col. 1, lines 12-15, "*In this specification the term random access channel refers to the logical channel on which random access transmissions take place, which would typically consist of a number of distinct physical channels.*").

Regarding Claim 21, the combination of Moulsley and Holtzman discloses all the limitations of Claim 20.

Moulsley further discloses the sending of the response signal including encoding at least one of the second decision values and the channel status information (col. 4, lines 41-44, "*enabling the BS 100 to signal allocation of a packet channel at the same time as it transmits an access acknowledgement 206 or a contention resolution acknowledgement 210.*").

Regarding Claim 22, the combination of Moulsley and Holtzman discloses all the limitations of Claim 21.

Moulsley further discloses the sending of the response signal including encoding at least one of the second decision value and the channel status information if included, so that the first decision valued can be decoded unchanged by the mobile terminal, regardless of whether the second decision value is included in the response signal (col. 3, lines 11-15, "*A signature is a signal characterised by its scrambling code and channelisation code modulated by a specific bit sequence. A mutually orthogonal set of signatures can be obtained by defining a set of mutually orthogonal bit sequences for the modulation*"; col. 5, lines 43-47, "*With a choice of 16 signatures and their inverses it is possible to acknowledge up to 16 different preamble signatures with one code word, and at the same time to send another code word indicating one of up to 16 different channelisation codes.*")

Regarding Claim 23, the combination of Moulsley and Holtzman discloses all the limitations of Claim 22.

Moulsley further discloses encoding the channel status information in the response signal using the at least one signature character sequence orthogonal to the first set of signature character sequences (col. 5, lines 49-52, "*The first set and its inverses are used for acknowledgements 210, while the second set and its inverses are used for channel assignments.*", two orthogonal sets of signatures: one and its inverses for decision values and the other and its inverses for channel status information.)

Regarding Claim 25, the combination of Moulsley and Holtzman discloses all the limitations of Claim 23.

Holtzman further discloses encoding of the alt least one of the second decision value and the channel status information in the response signal using a second set of signature character sequences (col. 3, lines 11-15, "*A signature is a signal characterised by its scrambling code and channelisation code modulated by a specific bit sequence. A mutually orthogonal set of signatures can be obtained by defining a set of mutually orthogonal bit sequences for the modulation*"; column 5, lines 43-47, "*With a choice of 16 signatures and their inverses it is possible to acknowledge up to 16 different preamble signatures with one code word, and at the same time to send another code word indicating one of up to 16 different channelisation codes.*"),

with each signature character sequence of the second set of signatures character sentences being created from a corresponding signature character sequence of the first set of signature character sequences by multiplying each second character by -1 ([0076], lines 2-5, "*the phase rotator 206 generates an ordered sequence of*

alternating plus and minus one values (i.e., 1, -1, 1, -1, 1, . . .) which are applied to the new users.").

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to modify the invention of Moulsley adding the limitations as explicitly described by Holtzman in order to encode the second decision value with a signature character sequence orthogonal to the first set of signature character sequences.

Regarding Claim 26, the combination of Moulsley and Holtzman discloses all the limitations of Claim 23.

Moulsley further discloses encoding at least one of the second decision value and the channel status information in the response signal using a character string encoded with a specific signature character sequence orthogonal to the first signature character sequence set to jointly transfer the second decision value with the channel status information (col. 3, lines 11-15, "*A signature is a signal characterised by its scrambling code and channelisation code modulated by a specific bit sequence. A mutually orthogonal set of signatures can be obtained by defining a set of mutually orthogonal bit sequences for the modulation*"; column 5, lines 43-47, "*With a choice of 16 signatures and their inverses it is possible to acknowledge up to 16 different preamble signatures with one code word, and at the same time to send another code word indicating one of up to 16 different channelisation codes.*")

Regarding Claim 27, the combination of Moulsley and Holtzman discloses all the limitations of Claim 26.

Moulsley further discloses the specific signature character sequence assigned to the base station (col. 5, lines 43-52, "*With a choice of 16 signatures and their inverses it is possible to acknowledge up to 16 different preamble signatures with one code word, and at the same time to send another code word indicating one of up to 16 different channelisation codes. To avoid the case of needing to transmit a signature and its inverse at the same time, the signatures may be divided into two sets. The first set and its inverses are used for acknowledgements 210, while the second set and its inverses are used for channel assignments.*" discloses assigning to the base station a first set of signatures and their inverses for sending decision values and another set and its inverses for sending channel assignments.)

Regarding Claim 28, the combination of Moulsley and Holtzman discloses all the limitations of Claim 25.

Moulsley further discloses The first signature character sequence set is assigned to a specific transmission channel over which the mobile terminal has previously sent an access preamble to the base station, and wherein said encoding of the second decision value uses a specific signature character sequence orthogonal to the first signature character sequence set (col. 5, lines 43-52, "*With a choice of 16 signatures and their inverses it is possible to acknowledge up to 16 different preamble signatures with one code word, and at the same time to send another code word indicating one of up to 16 different channelisation codes. To avoid the case of needing to transmit a signature and*

its inverse at the same time, the signatures may be divided into two sets. The first set and its inverses are used for acknowledgements 210, while the second set and its inverses are used for channel assignments.").

Regarding Claim 29, the combination of Moulsley and Holtzman discloses all the limitations of Claim 28.

Moulsley further discloses the channel status information including a third decision value for each occupied transmission channel indicating unavailability (col. 4, lines 46-53, "*In an alternative embodiment of the present invention, illustrated in FIG. 4, the BS 100 further transmits a packet channel availability (AV) message 402 to enable a MS 110 to determine whether its required channel is available before requesting access. Such a method is disclosed in more detail in our co-pending UK patent application 9921548.5 (our reference PHB 34390).*" A base station sending a mobile terminal a decision value with information about available channels. From this message, the mobile terminal may know what channels are unavailable.)

Regarding Claim 30, the combination of Moulsley and Holtzman discloses all the limitations of Claim 29.

Moulsley further discloses sending of the response signal including encoding each of the third decision values with the signature character sequences from the first set of signature character sequences (the first set of signature character sequences is orthogonal to the second set of signature character sequences, col. 3, lines 11-24, "*A signature is a signal characterised by its scrambling code and channelisation code*

modulated by a specific bit sequence. A mutually orthogonal set of signatures can be obtained by defining a set of mutually orthogonal bit sequences for the modulation. One example of such a set is shown in FIG. 3, the set comprising 16 signatures P.sub.0 to P.sub.15. Each signature P.sub.i comprises 16 complex symbols S, each of which is either A or -A, where A=1+j. The inverse of each signature is obtained by interchanging A and -A. The signatures and their inverses are all mutually orthogonal. A different set of signatures can be obtained by changing the scrambling code or the channelisation code (i.e. the physical channel), or by using a different mutually orthogonal set of bit sequences.") assigned to the occupied transmission channels (col. 4, lines 46-51, "*In an alternative embodiment of the present invention, illustrated in FIG. 4, the BS 100 further transmits a packet channel availability (AV) message 402 to enable a MS 110 to determine whether its required channel is available before requesting access.*" A base station sends a mobile terminal a decision value with information about available channels. From this message, the mobile terminal may know what channels are unavailable.)

Regarding Claim 31, the combination of Moulsley and Holtzman discloses all the limitations of Claim 29.

Moulsley further discloses The sending of the response signal includes encoding each of the third decision values with signature character sequences of the second set of signature character sequences (the second set of signature character sequences is orthogonal to the first set of signature character sequences, col. 3, lines 11-24, "*A*

signature is a signal characterised by its scrambling code and channelisation code modulated by a specific bit sequence. A mutually orthogonal set of signatures can be obtained by defining a set of mutually orthogonal bit sequences for the modulation. One example of such a set is shown in FIG. 3, the set comprising 16 signatures P.sub.0 to P.sub.15. Each signature P.sub.i comprises 16 complex symbols S, each of which is either A or -A, where A=1+j. The inverse of each signature is obtained by interchanging A and -A. The signatures and their inverses are all mutually orthogonal. A different set of signatures can be obtained by changing the scrambling code or the channelisation code (i.e. the physical channel), or by using a different mutually orthogonal set of bit sequences.") assigned to occupied transmission channels (col. 4, lines 46-51, "*In an alternative embodiment of the present invention, illustrated in FIG. 4, the BS 100 further transmits a packet channel availability (AV) message 402 to enable a MS 110 to determine whether its required channel is available before requesting access.*" A base station sends a mobile terminal a decision value with information about available channels. From this message, the mobile terminal may know what channels are unavailable.)

Regarding Claim 32, Moulsley discloses a method for selecting a transmission channel for transmission of messages from a mobile terminal to a base station, comprising: initially receiving at the base station of the mobile terminal a send authorization request signal for a specific transmission channel (col. 3, lines 30-36, "*In this basic scheme the choice of preamble signature for encoding the access preamble*

202 determines the physical channel requested by the MS 110, with each preamble signature corresponding to a limited number of uplink and downlink channels. If the BS 100 receives and decodes the preamble correctly it transmits a preamble acknowledgement (A) 206"); and

sending from the base station to the mobile terminal a response signal containing a first decision value wherein a first set of signature character sequences is used for encoding the first decision value in the response signal (col. 1, lines 49-52, "*the secondary station having means for requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource*"),

the first decision value indicating whether the mobile terminal is authorized to send a message on the specific transmission channel (col. 3, lines 46-50, "*As well as informing the MS 110 that its preamble 202 has been received, the acknowledgement 206 may be positive, to signal that the requested channels are free, or negative, to signal that they are in use and access is denied to the MS 110.*") and, if the first decision value indicates the mobile terminal is refused authorization to use the specific transmission channel and the mobile terminal is authorized to send a message on another transmission channel, the response signal includes a second decision value (col. 4, lines 40-46, "*In a system in accordance with the present invention, this problem is alleviated by enabling the BS 100 to signal allocation of a packet channel at the same time as it transmits an access acknowledgement 206 or a contention resolution acknowledgement 210. This signalling may form part of the acknowledgement 206,210*

or may be transmitted at the same time, preferably with the same channelisation code."),

wherein said second decision value in the response signal is encoded using at least one signature character sequence orthogonal to the first set of signature character sequences (col. 3, lines 11-15, "*A signature is a signal characterised by its scrambling code and channelisation code modulated by a specific bit sequence. A mutually orthogonal set of signatures can be obtained by defining a set of mutually orthogonal bit sequences for the modulation*"; column 5, lines 43-47, "*With a choice of 16 signatures and their inverses it is possible to acknowledge up to 16 different preamble signatures with one code word, and at the same time to send another code word indicating one of up to 16 different channelisation codes.*")

Moulsley does not explicitly disclose at least one signature character sequence used for encoding the second decision value created by multiplying only each second character of a signature character sequence of the first set of signature character sequences by -1.

Holtzman discloses at least one signature character sequence used for encoding the second decision value created by multiplying only each second character of a signature character sequence of the first set of signature character sequences by -1 ([0076], lines 2-5, "*the phase rotator 206 generates an ordered sequence of alternating plus and minus one values (i.e., 1, -1, 1, -1, 1, . . .) which are applied to the new users.*").

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to modify the invention of Moulsley adding the limitations as explixitly described by Holtzman in order to encode the second decision value with a signature character sequence orthogonal to the first set of signature character sequences.

Regarding Claim 33, Moulsley discloses a method for selecting a transmission channel and transmission of messages from a mobile terminal to a base station, comprising: initially sending from the mobile terminal to the base station an access preamble for a specific transmission channel (col. 3, lines 30-36, "*In this basic scheme the choice of preamble signature for encoding the access preamble 202 determines the physical channel requested by the MS 110, with each preamble signature corresponding to a limited number of uplink and downlink channels. If the BS 100 receives and decodes the preamble correctly it transmits a preamble acknowledgement (A) 206*");

receiving a response signal at the mobile terminal from the base station (col. 3, lines 46-47, "*informing the MS 110 that its preamble 202 has been received*,");

detecting at the mobile terminal a first decision value in the response signal, wherein a first set of signature character sequences is used for encoding the first decision value in the response signal (col. 1, lines 49-52, "*the secondary station having means for requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource*"),

the first decision value indicating whether the mobile terminal is authorized to send a message on the specific transmission channel (col. 3, lines 46-50, "*As well as informing the MS 110 that its preamble 202 has been received, the acknowledgement 206 may be positive, to signal that the requested channels are free, or negative, to signal that they are in use and access is denied to the MS 110.*");

analyzing at the mobile terminal, upon detection that the first decision value indicates refusal of authorization for the mobile terminal to send the message on the specific transmission channel, the response signal to determine whether a second decision value therein indicates authorization for the mobile terminal to send the message on another transmission channel (col. 4, lines 40-51, "*In a system in accordance with the present invention, this problem is alleviated by enabling the BS 100 to signal allocation of a packet channel at the same time as it transmits an access acknowledgement 206 or a contention resolution acknowledgement 210. This signalling may form part of the acknowledgement 206,210 or may be transmitted at the same time, preferably with the same channelisation code. In an alternative embodiment of the present invention, illustrated in FIG. 4, the BS 100 further transmits a packet channel availability (AV) message 402 to enable a MS 110 to determine whether its required channel is available before requesting access.*");

wherein said second decision value in the response signal is encoded using at least one signature character sequence orthogonal to the first set of signature character sequences (col. 3, lines 11-15, "*A signature is a signal characterised by its scrambling code and channelisation code modulated by a specific bit sequence. A mutually*

orthogonal set of signatures can be obtained by defining a set of mutually orthogonal bit sequences for the modulation"; column 5, lines 43-47, "*With a choice of 16 signatures and their inverses it is possible to acknowledge up to 16 different preamble signatures with one code word, and at the same time to send another code word indicating one of up to 16 different channelisation codes.*") and

sending the message by the mobile terminal to the base station on one of the transmission channels available (col. 5, lines 55-57, "*If a CA 210 was received the MS 110 is able to proceed to transmit, at step 520, its data packets 214 on the assigned channel, after which the method ends at step 522.*").

Moulsley does not explicitly disclose at least one signature character sequence used for encoding the second decision value created by multiplying only each second character of a signature character sequence of the first set of signature character sequences by -1.

Holtzman discloses at least one signature character sequence used for encoding the second decision value created by multiplying only each second character of a signature character sequence of the first set of signature character sequences by -1 ([0076], lines 2-5, "*the phase rotator 206 generates an ordered sequence of alternating plus and minus one values (i.e., 1, -1, 1, -1, 1, . . .) which are applied to the new users.*").

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to modify the invention of Moulsley adding the limitations as explixitly described by Holtzman in order to encode the second decision value with a

signature character sequence orthogonal to the first set of signature character sequences.

Regarding Claim 34, Moulsley discloses a base station with a transceiver unit and a processor unit for selecting a transmission channel for transmission of messages from a mobile terminal to the base station, comprising a decoding device detecting a send authorization request signal sent by the mobile terminal for a specific transmission channel (col. 3, lines 30-36, "*In this basic scheme the choice of preamble signature for encoding the access preamble 202 determines the physical channel requested by the MS 110, with each preamble signature corresponding to a limited number of uplink and downlink channels. If the BS 100 receives and decodes the preamble correctly it transmits a preamble acknowledgement (A) 206*"); a channel release unit determining which transmission channels are currently available for sending a message (col. 4, lines 48-50, "*the BS 100 further transmits a packet channel availability (AV) message 402 to enable a MS 110 to determine whether its required channel is available before requesting access.*"); and

an encoding device generating a response signal to the mobile terminal containing a first decision value, wherein a first set of signature character sequences is used for encoding the first decision value in the response signal (col. 1, lines 49-52, "*the secondary station having means for requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource*"),

the first decision value indicating whether the mobile terminal is authorized to send the message on the specific transmission channel (col. 3, lines 46-50, "*As well as informing the MS 110 that its preamble 202 has been received, the acknowledgement 206 may be positive, to signal that the requested channels are free, or negative, to signal that they are in use and access is denied to the MS 110.*") and containing a second decision value when the first decision value indicates refusal of authorization for the mobile terminal to send the message on the specific transmission channel and the mobile terminal is authorized to send a message on another transmission channel (col. 4, lines 40-46, "*In a system in accordance with the present invention, this problem is alleviated by enabling the BS 100 to signal allocation of a packet channel at the same time as it transmits an access acknowledgement 206 or a contention resolution acknowledgement 210. This signalling may form part of the acknowledgement 206,210 or may be transmitted at the same time, preferably with the same channelisation code.*"),

wherein said second decision value in the response signal is encoded using at least one signature character sequence orthogonal to the first set of signature character sequences (col. 3, lines 11-15, "*A signature is a signal characterised by its scrambling code and channelisation code modulated by a specific bit sequence. A mutually orthogonal set of signatures can be obtained by defining a set of mutually orthogonal bit sequences for the modulation*"; column 5, lines 43-47, "*With a choice of 16 signatures and their inverses it is possible to acknowledge up to 16 different preamble signatures*

with one code word, and at the same time to send another code word indicating one of up to 16 different channelisation codes.") and

Moulsley does not explicitly disclose at least one signature character sequence used for encoding the second decision value created by multiplying only each second character of a signature character sequence of the first set of signature character sequences by -1.

Holtzman discloses at least one signature character sequence used for encoding the second decision value created by multiplying only each second character of a signature character sequence of the first set of signature character sequences by -1 ([0076], lines 2-5, "*the phase rotator 206 generates an ordered sequence of alternating plus and minus one values (i.e., 1, -1, 1, -1, 1, . . .) which are applied to the new users.*").

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to modify the invention of Moulsley adding the limitations as explixitly described by Holtzman in order to encode the second decision value with a signature character sequence orthogonal to the first set of signature character sequences.

Regarding Claim 35, Moulsley discloses all the limitations of Claim 34. He further discloses a mobile radio network with a number of base stations

The reference (col. 1, lines 1-152, "*The present invention relates to a radio communication system having a random access channel for the transmission of data*

from a secondary station to a primary station, and further relates to primary and secondary stations for use in such a system and to a method of operating such a system. While the present specification describes a system with particular reference to the emerging ***Universal Mobile Telecommunication System*** *(UMTS), it is to be understood that the techniques described are equally applicable to use in other mobile radio systems. In this specification the term random access channel refers to the logical channel on which random access transmissions take place, which would typically consist of a number of distinct physical channels."* A UMTS comprehends **several base stations**.)

Regarding Claim 36, Moulsley discloses a mobile terminal selecting a transmission channel for transmission of messages from the mobile terminal to a base station, comprising:

a processor generating a send authorization request signal for a specific transmission channel (col. 3, lines 30-36, "*In this basic scheme the choice of preamble signature for encoding the access preamble 202 determines the physical channel requested by the MS 110, with each preamble signature corresponding to a limited number of uplink and downlink channels. If the BS 100 receives and decodes the preamble correctly it transmits a preamble acknowledgement (A) 206*") and decoding a response signal sent by the base station to detect a first decision value, wherein a first set of signature character sequences is used for encoding the first decision value in the response signal (col. 1, lines 49-52, "*the secondary station having means for requesting*

access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource"),

the first decision value indicating whether the mobile terminal is authorized to send a message on the specific transmission channel (col. 3, 40-46, "*As well as informing the MS 110 that its preamble 202 has been received, the acknowledgement 206 may be positive, to signal that the requested channels are free, or negative, to signal that they are in use and access is denied to the MS 110.*"), said decoding device, upon detection of a first decision value indicating refusal of authorization to send the message on the specific transmission channel, analyzing the response signal to determine whether a second decision value is included therein authorizing the mobile terminal to send the message on another transmission channel (col. 2, lines 19-23, "*for receiving a further response from the primary station, and for determining which channel has been allocated from a channel allocation signal transmitted by the primary station at the same time as at least one of the responses* and

wherein said second decision value in the response signal is encoded using at least one signature character sequence orthogonal to the first set of signature character sequences (col. 3, lines 11-15, "*A signature is a signal characterised by its scrambling code and channelisation code modulated by a specific bit sequence. A mutually orthogonal set of signatures can be obtained by defining a set of mutually orthogonal bit sequences for the modulation*"; column 5, lines 43-47, "*With a choice of 16 signatures and their inverses it is possible to acknowledge up to 16 different preamble signatures*

with one code word, and at the same time to send another code word indicating one of up to 16 different channelisation codes.")

a transceiver unit sending the message to the base station on one of the transmission channels available (col. 5, lines 53-57, "*Finally, the MS 110 determines, at step 518, whether it received a contention resolution acknowledgement 210 from the BS 110. If a CA 210 was received the MS 110 is able to proceed to transmit, at step 520, its data packets 214 on the assigned channel, after which the method ends at step 522.*").

Moulsley does not explicitly disclose at least one signature character sequence used for encoding the second decision value created by multiplying only each second character of a signature character sequence of the first set of signature character sequences by -1.

Holtzman discloses at least one signature character sequence used for encoding the second decision value created by multiplying only each second character of a signature character sequence of the first set of signature character sequences by -1 ([0076], lines 2-5, "*the phase rotator 206 generates an ordered sequence of alternating plus and minus one values (i.e., 1, -1, 1, -1, 1, . . .) which are applied to the new users.*").

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to modify the invention of Moulsley adding the limitations as explixitly described by Holtzman in order to encode the second decision value with a

signature character sequence orthogonal to the first set of signature character sequences.

Regarding Claim 37, the combination of Moulsley and Holtzman discloses all the limitations of Claim 19.

Moulsley further discloses the second decision value included in the response signal furthermore indicates which other transmission channels are available for use by the mobile terminal (col. 4, lines 48-50, "*BS 100 further transmits a packet channel availability (AV) message 402 to enable a MS 110 to determine whether its required channel is available*").

Regarding Claim 38, the combination of Moulsley and Holtzman discloses all the limitations of Claim 32.

Moulsley further discloses the second decision value included in the response signal furthermore indicates which other transmission channels are available for use by the mobile terminal (col. 4, lines 48-50, "*BS 100 further transmits a packet channel availability (AV) message 402 to enable a MS 110 to determine whether its required channel is available*").

Regarding Claim 39, the combination of Moulsley and Holtzman discloses all the limitations of Claim 33.

Moulsley further discloses the second decision value included in the response signal furthermore indicates which other transmission channels are available for use by the mobile terminal (col. 4, lines 48-50, "*BS 100 further transmits a packet channel*

availability (AV) message 402 to enable a MS 110 to determine whether its required channel is available").

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARISOL FAHNERT whose telephone number is (571)270-7512. The examiner can normally be reached on M-T EST 7:30-5:00 OFF EVERY OTHER FRIDAY.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Pérez-Gutiérrez can be reached on (571) 272 7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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